

REMARKS

Claims 1 – 18 are pending in the present invention. Claims 7 – 12 have been amended.

The drawings were objected to as not showing the windings of the nut or the bolt. Applicant asserts that it is well known that, with the exception of specially manufactured bolts, bolts use a standard right hand winding direction and are tightened clock-wise and loosened counter-clock-wise. Applicant proposes adding new Figure 7 that shows the windings on the bolt. No new matter has been added.

Applicant proposes amending Figures 6a and 6b to include the legend "Prior Art." The proposed amendment is highlighted in red.

Claims 7 – 12 were rejected under 35 USC § 112, second paragraph as being indefinite. Applicant has amended these paragraphs to make clear that the spring is a spiral of increasing diameter.

Claims 1 – 18 were rejected under 35 USC §103(a) as being unpatentable over European Application 1113186 ('186 Application).

The thread direction of a standard nut and bolt combination is a right-handed thread. The winding direction of the coil spring moving away from the nut is left hand coil. Thus, the end portion of the coil spring will not become stuck in the check valve during assembly.

Prior art bottom valve apparatus use coils springs that have a right-handed coil. Because, standard bolt and nut combinations use right-handed coil and the end portion of the coil spring along the side is in contact with the check valve. Negative pressure is applied to the check valve when the coil spring rotates together with the rotation of the nut and the end of the coil spring gets caught in the check valve. The '186 patent shows a standard bottom valve apparatus of the prior art. The spring is a right hand coil as are the bolts. Figures 3 and 4 clearly show the spring with a right-handed coil. Further, there is no indication that anything other than standard bolts are used. Thus, the '186 patent does not teach a bottom valve apparatus with all the limitations of claim 1.

The attached Declaration describes the non-obvious nature of the inventive apparatus in detail including the long felt need for the inventive apparatus.

SHOWA CORP.
10/636080
Page 2 of 8

In the Drawings:

Proposed Drawing Amendments to Figures 6A and 6B are shown circled in Red.
Proposed New Figure 7 is attached. No new matter has been added.

CONCLUSION

Applicant asserts that all of the objections have been obviated and, therefore now respectfully requests withdrawal of the objections, and allowance of the application.

REQUEST FOR EXTENSION OF THE TERM

Applicant respectfully requests an extension of the normal term which expired on November 3, 2004, for one month, to December 3, 2004.

Submitted herewith is a check for \$110 to cover the cost of the extension.

Any deficiency or overpayment should be charged or credited to Deposit Account Number 04-2219, referencing our Docket Number 13547.

Respectfully submitted,

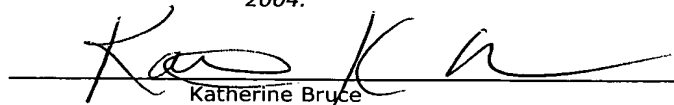


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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Alexandria, VA 22313-1450, on December 3, 2004.



Katherine Bruce

FIG. 6A

(PRIOR ART)

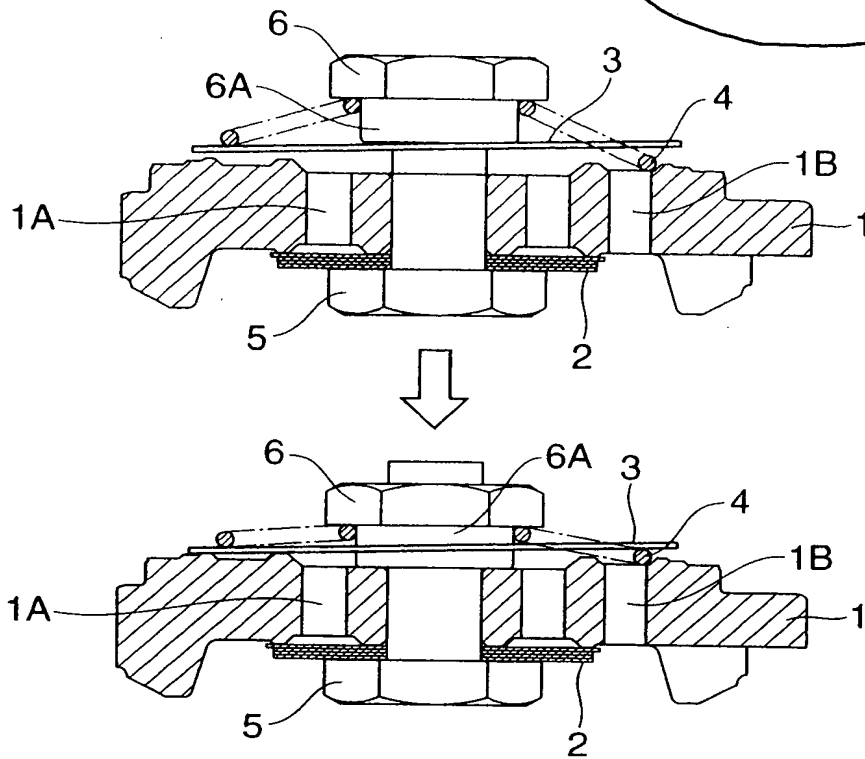
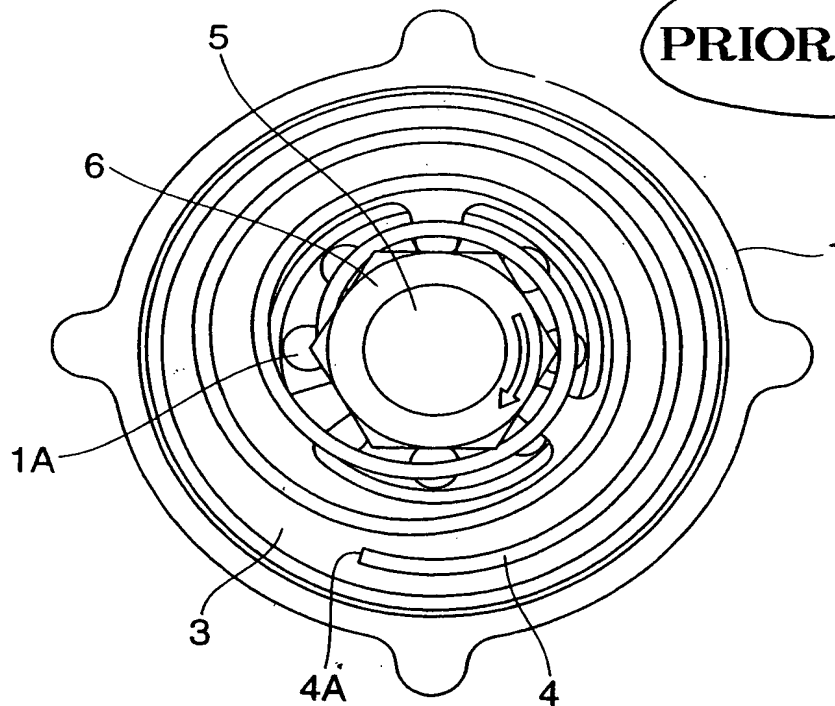


FIG. 6B

(PRIOR ART



Replacement Sheet